

ENVIRONMENTAL ASSESSMENT FOR THE Safford Field Office Erosion Control Structures

EA Number: AZ-410-2005-0008

Lease/Serial/Case File No.: Project numbers are included in the project list found in Appendix 1.

Applicant: Bureau of Land Management (BLM)

BLM Office: Safford Field Office

Location of Proposed Action: Maps 1-6 show the location of the San Simon Valley and includes the general location for each project proposed in this environmental assessment (EA). Detailed designs for each project are in project files located in engineering.

CONFORMANCE WITH APPLICABLE LAND USE PLANS

The Proposed Action is subject to the following land use plan:

Name of Plan: Safford District Resource Management Plan (RMP)

Date Approved: Record of Decision Part I, September 1992; Record of Decision Part II, July 1994.

The proposed Action is in conformance with the applicable land use plan:

CHECK ONE
(x) YES () NO

Remarks: Decisions specific to erosion control activities and the Proposed Action that are found in the RMP (WS01):

Soil Erosion Decision # 262 The Safford district goal, for all public land within the District, is to minimize soil erosion and rehabilitate eroded areas to maintain or enhance watershed condition and reduce non-point source pollution that may originate on public lands. Specific objectives include restoration of the eroding flood plains of the San Simon River and the Bear Springs Flat area and the reduction of salts entering the Gila River. Partial ROD page 10, 1992. The proposed action is in conformance.

RMP objectives page 44:

- Reduce accelerated erosion
- Restore eroded floodplains of the San Simon River ...
- Reduce silt and salts entering the Gila River from the San Simon River.
- Reduce non-point source pollution that could result from rangeland management and use activities.

Soil Erosion Decision # 263 Develop activity plans to initiate rehabilitation of eroded areas where needed. RMP page 44. The proposal is in conformance.

Soil Erosion Decision # 265 Continue reseeding projects on the San Simon and investigate methods to increase vegetation cover in the Bear Springs Flat area without adversely affecting the ACEC values. RMP page 44. The proposal is in conformance.

Watershed decision #36 When implementing BLM or BLM approved activities, minimize surface disturbances to prevent the addition of large quantities of dust to the air. When surface disturbances occur, enforce stipulations to mitigate the impacts to air quality. RMP page 47. Partial ROD I page 10.

Watershed decision #37 Continue the rehabilitation of erosion in the San Simon Watershed and Bear Springs Flat area to reduce airborne dust. RMP page 47. Partial ROD I page 10.

PURPOSE/NEED FOR PROPOSED ACTION

The purpose of this proposed action is to restore erosion control structures within the Safford Field Office and the San Simon Valley. As described below, the proposed action is needed to minimize soil erosion and rehabilitate eroded areas to maintain or enhance watershed condition and reduce non-point source pollution that may originate on public lands. Specific objectives include restoration of the eroding flood plains of the San Simon River. The proposed action serves one of the major objectives of the San Simon Watershed Plan: to keep sediment from being transported to the Gila River and into the San Carlos Reservoir.

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

Proposed Action:

The proposed action is to construct, maintain, and/or rebuild 35 soil erosion structures within the San Simon Valley and other areas within the Safford Field Office. The San Simon River has been incising since early in the 20th century. In an attempt to stop this incision, slow sediment delivery, and restore the river channel, grade control structures have been installed on the San Simon River and its tributaries. Structures are numerous and include at least 14 major detention dams, several dikes and several earth structures which are miles in length. Appendix 1 list each project, action descriptions, and locations. Road construction as proposed in Appendix 1 will be kept to the minimum necessary for the construction, repair, and maintenance to existing and new structures. The BLM proposes to construct, repair, and maintain approximately 15 miles of road associated with the project sites.

During maintenance activities, patches of thick/tall vegetation will be avoided when possible.

Construction equipment will include, but will not be limited to the following, nor required for each project: Front-end loader, dozer, grader, backhoe, dump truck, water tender and concrete mixer. Other mechanized equipment including chainsaws, mowers, and drills would be used as needed. Hand tools would include, but would not be limited to shovels, pulaski, hand saws, clippers, and hoes. The purpose of using such tools is to move and redistribute soil; remove vegetation; seeding and planting; mix and pour concrete; crush rock; and create and grade roads and access routes.

This environmental assessment will consider all the projects listed in Appendix 1. For each project listed there is a corresponding project file located within the Safford Field Office. Inventories to assess maintenance needs were completed from the year 2000 to present day. These projects will be prioritized and scheduled over a five-year period. Cultural and biological clearance will also be complete as resources and budget allows. These clearances will be scheduled and completed prior to any project work. As part of the proposed action, no project work would commence prior to any clearances being signed. Also, once the clearances are completed, a separate decision record would be prepared, based upon those clearances and this analysis, prior to any project construction. Should the biological and/or cultural clearances result in unacceptable impacts that could not be mitigated, to be determined by the Safford Field Office NEPA team and authorized officer, then the project would not be completed as proposed.

AFFECTED ENVIRONMENT

Watershed - The San Simon River originates along the Arizona-New Mexico State line about 12 miles north of the United State-Mexico international boundary. It flows in a northwesterly direction for about 100 miles and empties into the Gila River near Safford, Arizona. The average slope of the drainage is between 0.2 and 0.3 percent (0.2-0.3 feet loss of elevation per 100 feet of horizontal distance). The San Simon produces an average of 8,550 acre-feet of water per year. Suspended sediment in San Simon waters as they leave the watershed varies widely, from a low of about 3,000 parts per million to a high of over 180,000 parts per million.

The watershed covers about 1,966 square miles (1,258,690 acres) or 5,092 square kilometers (509,200 hectares). The BLM manages 49.8 percent of the watershed, while private lands account for 24.9 percent, 15.3 percent are State lands (Arizona and New Mexico), 9.8 percent are managed by the U.S. Forest Service, and the remaining 0.1 percent is managed by the National Park Service.

Watershed elevations range from about 2,900 feet above sea level at the river's mouth to 9,800 feet in the Chiricahua Mountains on the southern end of the watershed. Most of the 626,909 acres of land managed by the BLM are below 5,000 feet in elevation and are generally situated on the downstream half of the watershed.

The San Simon watershed is semi-arid for most of its areas. Precipitation varies from about 8 inches on the northern (low elevation) end to over 20 inches in the Chiricahua Mountains. About 60 percent of the rainfall occurs during the 6 hottest months, usually as high intensity, localized thunderstorms. The remaining forty percent of the precipitation, received in the cooler months, generally occurs as relatively gentle, widespread rains. Snow is received on the watershed each year. At the lower elevations, it generally covers the ground for less than 12 hours and at the higher elevations, may remain for 5 to 6 months. Temperatures are relatively mild on the BLM-administered lands with seasonal extremes ranging slightly over 100 degrees for summer highs to around 10 degrees for winter lows. The frost-free season on the lower part of the watershed is 190 to 210 days.

Vegetation - Vegetation within the San Simon varies dependant on the precipitation zones and may include creosote bush, mesquite, saltbush, burroweed, snakeweed, prickly pear, yucca, threeawn, sideoats, blue, black, and hairy grama; cane beardgrass, Lehman's lovegrass, bush muhly, sacaton, Arizona cottontop; ocotillo, agave, cholla, barrel cactus, Mormon-tea, acacia, oak; juniper; and invasive species, salt cedar. Annual grasses and forbs are present and vary dependant on season and precipitation.

There is evidence that before the turn of the century the San Simon Valley had extensive stands of mesquite Bosque and broad leaf galleries along the edge of the river. These all disappeared with wood harvesting and ground water dissipation. Today the only areas where mesquite occur in thick patches, is where soil moisture is maintained by the erosion structures. Mesquites occur behind the structures and along the water course below the structures into which the water is released slowly.

Soils - In general soils of the valley are arid, semiarid, semiarid of the mountain, hills, high fans, and valley plains; and subhumid soils of the mountains. The arid and semiarid soils of the valleys are generally very deep, well drained, and occur on valley plains, alluvial fans and side slopes. Soil textures in the soil profile range from loamy sands to clays and the soils are usually calcareous. The soils of the foothills and mountains vary from semi-arid to sub-humid depending upon elevation. These soils are generally shallow to moderately deep, well drained and occur on hills and mountains. Soil profile textures vary from gravelly loams to very gravelly clays and the soils are usually on-calcareous. Please refer to the Soil Survey of San Simon Area, Arizona (Parts of Cochise, Graham, and Greenlee counties) for a thorough description of the soils that make up the San Simon valley and watershed. Publications are available by contacting the Natural Resources Conservation Service.

Wildlife - Resident wildlife may include desert muledeer, whitetail deer, javelina, skunk, fox, badger, coyote, bobcat, mountain lion, muskrat, kangaroo rat, great-horned owl, quail, dove, migratory birds, rattlesnake, garter snake, king snake, gila monster, collared lizard, western fence lizard, and horned lizard, to name a few. Data files from the Safford Field Office (by including the Gila River) show there are 23 species of fish, 13 amphibians, 65 reptiles, 275 birds, and 84 mammals.

The erosion structures support vegetation that provide unique habitat in the San Simon Valley. The increased soil moisture behind the structures, as well as down stream, supports thick woody as well as herbaceous vegetation. The vertical structure and density provide islands of habitat that wildlife have become dependent on.

Cultural - The San Simon Valley contains hundreds of known cultural sites eligible for the National Register of Historic Places. Only a small percentage of the area has been inventoried for cultural resources and little is known of historic land uses or natural processes and how they have changed the environment. The known affected cultural sites are significant for their scientific and public use values and are potentially of traditional value to Native Americans.

ENVIRONMENTAL IMPACTS

Scope of the Assessment: To begin the BLM's NEPA process on the proposed projects the Safford Field Office (SFO) NEPA team and other resource specialists discussed the proposal at an internal meeting held on December 9, 2004. A 90-day scoping period followed the meeting. During the scoping period the SFO NEPA team reviewed each project file and made several field trips to the San Simon Valley. The SFO NEPA team is an interdisciplinary team of resource specialists that review all proposed actions prior to decision within the field office, initiated internally or externally.

Issues Identified: During the review period comments were raised regarding cultural, visual resources, road impacts, wildlife, lands/realty, water rights, site rehabilitation, soil erosion, and potential vegetation disturbance. These issues will be carried forward for analysis. Standard stipulations were prepared for cultural resources and non-native/invasive species.

Critical Elements: Critical elements of the human environment that must be addressed in environmental assessments and environmental impact statements were included during the scoping process and a determination was made as to whether an element was affected, potentially affected, or not affected by the proposed action and alternatives. Affected and potentially affected resources are carried forward for analysis.

Air quality: Potentially affected; carried forward for analysis.

Cultural Resource and Native American Religious Concerns: Potentially affected; carried forward for analysis.

Environmental Justice and Socio-economics: Potentially affected; carried forward for analysis.

Floodplains: Potentially affected; carried forward for analysis.

Hazardous Materials: There are no known hazardous materials at the proposed projects locations nor is it anticipated while constructing projects or performing maintenance would there be any impacts regarding hazardous materials. Therefore, hazardous materials will not be carried forward for additional analysis.

Invasive/noxious plants: Affected; carried forward for analysis.

Prime/Unique Farmlands: There are no known prime/unique farmlands within the San Simon Valley, therefore there are no impacts. However, potential impacts to the farms and communities of the San Simon Valley will be carried forward for analysis.

Solid Waste: There are no known solid waste issues present nor would any result while the proposed action, including all construction and maintenance activities, is fully implemented. This element is not affect so it will not be carried forward for analysis.

Special Management Areas (Wilderness Areas (WA) and Areas of Critical Environmental Concern (ACEC) – The Dos Cabezas Mountains WA and Dos Cabezas Peak ACEC were designated partially for scenic values. There are no proposed projects near the boundary of the WA or the ACEC that would affect their values; therefore, there are no impacts, including visual, and these will not be carried forward for additional analysis. The Bowie Mountain ACEC was designated for its scenic backdrop to Ft. Bowie National Historic Site. No proposed projects are located near the buffer zone and boundary; therefore, there are no impacts, including visual, which would affect the value of this ACEC and will not be carried forward for analysis. The Bear Springs Badlands ACEC is not within the San Simon Valley, but is located near the Gila River and close to Oso Largo detention dam so it will be carried forward for analysis.

T&E Animal: Listed species occurring in Graham County were considered (see table). The proposed project will have no affect on listed species, and therefore will not be carried forward for analysis.

T&E Plant: Listed species occurring in Graham County were considered (see table) There are no documented T&E plant species within the San Simon Valley nor critical habitat designations; Therefore there proposed action and alternative would have no affect on T&E plants. This issue is not carried forward for analysis.

Graham County

<u>Common Name</u>	<u>Scientific Name</u>	<u>Listing Status</u>	<u>Affected</u>
Apache trout	<i>Oncorhynchus apache</i>	T	No
Arizona Cliff-rose	<i>Purshia (=Cowania) subintegra</i>	E	No
bald eagle	<i>Haliaeetus leucocephalus</i>	AD, T	No
black-tailed prairie dog	<i>Cynomys ludovicianus</i>	C	No
brown pelican	<i>Pelecanus occidentalis</i>	DM, E	No

cactus ferruginous pygmy-owl	<i>Glaucidium brasilianum cactorum</i>	E	No
Chiricahua leopard frog	<i>Rana chiricahuensis</i>	T	No
desert pupfish	<i>Cyprinodon macularius</i>	E	No
Gila chub	<i>Gila intermedia</i>	PE	No
Gila topminnow (incl. Yaqui)	<i>Poeciliopsis occidentalis</i>	E	No
lesser long-nosed bat	<i>Leptonycteris curasoae yerbabuenae</i>	E	No
loach minnow	<i>Tiaroga cobitis</i>	T	No
Mexican spotted owl	<i>Strix occidentalis lucida</i>	T	No
Mount Graham red squirrel	<i>Tamiasciurus hudsonicus grahamensis</i>	E	No
razorback sucker	<i>Xyrauchen texanus</i>	E	No
southwestern willow flycatcher	<i>Empidonax traillii eximius</i>	E	No
spikedace	<i>Meda fulgida</i>	T	No
yellow-billed Cuckoo	<i>Coccyzus americanus</i>	C	No

E – Endangered

T – Threatened

PE – Proposed Endangered

C – Candidate

EXPN – Experimental Population, Non-Essential

DM – Delisted Taxon, Recovered, Being Monitored

SAT – Similarity of Appearance to a Similar Taxon

DR – Delisted Taxon, Taxonomic Revision

Reference <http://arizonaes.fws.gov/>

T&E Plant: There are no documented T&E plant species within the San Simon Valley nor critical habitat designations; Therefore there proposed action and alternative would have no affect on T&E plants. This issue is not carried forward for analysis.

Visual Resource Management: Potentially affected; carried forward for analysis.

Water Quality: Affected; carried forward for analysis.

Wetland/Riparian: Affected; carried forward for analysis.

Wild and Scenic Rivers: There are no rivers that were found to be eligible, therefore this issues is not being carried forward for analysis.

Water Rights: Potentially affected; carried forward for analysis.

Energy: There are no energy resources on public lands within the proposed project areas. Energy resources are not impacted; therefore this element is not carried forward for analysis.

Description of Impacts

Proposed Action: Construct and maintain projects listed in Appendix 1.

Air quality: Under the Clean Air Act (1977, as amended), public lands within the Safford District were given a Class II air quality classification. For each project listed in Appendix A during construction and maintenance activities, when and where needed, a water tender will be used for dust abatement. This will be at the discretion of the Safford Field Office civil engineer and civil engineering technician. Dust abatement will be needed during construction and maintenance activities where dust may reduce visibility on any public road. Air quality standards would not be exceeded during any construction and maintenance activities; therefore, no permits are needed from the Arizona Department of Water Quality.

Cultural Resource and Native American Religious Concerns: Cultural surveys would be conducted prior to any project work to determine the level of impacts. The extent of the project work would be dependant on the surveys. Should a survey show the work cannot be completed as described the project would either be modified, resources mitigated, and/or cancelled.

Environmental Justice and Socio-economics: There are low-income and minority populations within Graham, Greenlee, and Cochise counties. Communities with low income populations include Town of Thatcher, City of Safford, Pima, Solomon, Sanchez, Bowie, San Simon, AZ and the San Carlos Indian Nation. However, impacts to these low-income and minority populations are no different than those that may result in the higher income populations within those same communities. No specific data will be provided since there are no disproportionate impacts. The reduction in salts and sediments entering the Gila River from the San Simon Valley would be reduced by improving the functionality of soil erosion structures, therefore, improving the water quality within these communities including the San Carlos Indian Nation. The economic and social impacts regarding the proposed action are indirect and tied to water quantity and quality, which would be improved.

Floodplains: Floodplains are located throughout the San Simon Valley and Gila Watershed. Constructing and maintaining soil erosion control projects reduces the rate at which floodplains would erode. However, erosion from natural flooding events would still occur.

Invasive/noxious plants: Invasive species located within the project area include, but are not limited to salt cedar, Russian thistle, and sahara mustard. Salt cedar either removed from the ground-level or disturbed in any way may result in regeneration. Efforts to control regeneration using herbicides are not being considered in this analysis. The potential is there for equipment to become contaminated with invasive species during project construction and maintenance, therefore the spread of invasive species may occur after contaminated equipment leaves an infested area.

Prime/Unique Farmlands: There are no known prime/unique farmlands within the San Simon Valley, therefore there are no impacts. However, the farming industry in the San Simon Valley and the Gila Watershed produces cotton, alfalfa, pecans, pistachios, peppers, and other various crops. Water sustains these farming communities. The reductions of salts and sediments moving through the watershed impacts water quality, which then impacts how crops respond to both water quality and quantity.

Reclamation: Reclaiming projects sites would either occur as part of the project construction or come after the project is inspected. Reclamation effort may include using heavy equipment to move soil and re-contour slopes and seeding. Although seeding was a reclamation method discussed in the RMP specific to soil erosion control, transplanting native species such as alkali sacaton could be used.

Special Management Areas (Wilderness Areas (WA) and Areas of Critical Environmental Concern (ACEC) – The Bear Springs Badlands ACEC is not within the San Simon Valley, but is located near the Gila River, west of Safford, AZ. The Oso Largo Detention dam is northwest of the ACEC and although a breach in the dam would not have a direct impact on the ACEC, head cutting could, in the long-term reach the ACEC. If head cutting were to occur in the ACEC, the paleontological resources could erode also.

Wildlife: Seventy years of sediment accumulations behind each erosion control structure along with increased soil moisture, has allowed vegetation to become established and thrive. Vegetation has also become established in long wide stringers below the structures due to increased soil moisture from the slow release of water. This vegetation provides islands of habitat with vegetation structure and density different from most of the San Simon Valley. In all, these islands probably represent hundreds of acres of habitat. During the life of the project approximately 5 acres of this habitat will be disturbed, averaging one acre per year. In addition, 35 acres of the abundant creosote/salt bush habitat will be disturbed during the life of the project, seven acres per year.

Some small animal such as lizards, snakes, mice and toads will be directly impacted by the surface disturbance, some nesting birds will also be displaced by the removal of tall vegetation. Large mammals will be displaced due to noise and activity during construction, but will return after construction. In most cases only a portion of the vegetation and soil surface will be impacted behind the structures, leaving vegetation and remnant wildlife populations to re-colonize the disturbed area. It is expected to take a minimum of twenty years for the vegetation height and density to recover. Reconstruction and maintenance of these projects allows for the long term continued availability of hundreds of acres of habitat for wildlife.

Visual Resource Management: The Dos Cabezas Peaks ACEC is designated a VRM Class II. The Dos Cabezas Wilderness Area and the Bowie Mountain Scenic ACEC are designated a VRM Class I. East of Bowie Mountain around the marble quarry is designated a Class III. The remainder of BLM within the project areas are designated a

VRM Class IV. The construction activities needed to fully implement the proposed action would not result in a need to change any of these designated classes. Where feasible, use methods to where project visibility would blend with the natural surroundings (See mitigation).

Water Quality: Water quality and quantity have been a long-standing issue on the Upper Gila Watershed, with on-going litigation over both subjects. The Clean Water Act placed the responsibility upon the states to implement many portions of the Act including reduction in non-point source pollution. The Clean Water Action Plan has directed agencies to take a holistic management approach to improving the water resources. The *Suspended Sediment Monitoring Project, San Simon Watershed, Southeast Arizona, 1983 to 1995* was published. The monitoring project was initiated to determine how effective soil erosion control structures and management practices have been in reducing the sediment leaving the watershed and determine whether salinity was a problem. (Molitor 1995). The report concluded that the watershed, including the stream channel, was improving slowly. Restoration projects and management activities have reduced erosion within the watershed. Implementing the proposed action is necessary to assist in the slow restoration processes of this watershed. The continued reduction of sediment and salts leaving the watershed reduces non-point pollution in the Gila River.

Wetland/Riparian: The San Simon channel within the watershed is an ephemeral system, but historical records indicate it was once capable of perennial flow. A series of events from the late 1800's to 1940 lead to severe erosion, to the point that the water table has dropped and the system is not capable of supporting wetland/riparian system. The proposed action promotes soils stabilization that allows perennial vegetation to sustain itself in pseudo-riparian status.

Soil: No soil will be removed from the San Simon; therefore, soil is only displaced during the construction and reclamation phases. There will be over 120,000 cubic yards of soil moved during the life of the projects, primarily sediment removal from detention dams. Gravel needed on projects and will be brought in and not made on any project site.

Vegetation: Approximately 40 acres of vegetation would be removed during the life of the projects, while about 20 acres would be temporarily disturbed from trampling, trimming, and reclaiming. Plant species to consider for replanting include barrel cactus and ocotillo.

Roads: No new roads would be constructed other than those needed for access to completed the projects described. Where roads are not needed after projects are completed, those routes would be reclaimed. Less than 20 miles of temporary and new permanent roads would be constructed and maintained and not exceed 12 feet in width. These roads would not be maintained for public use.

Grazing: Cooperative Agreements: Proposed projects that are under a Section 4 Permit or a Cooperative Agreement will be reconstructed and/or maintained regardless of the permit status. Allottees would be consulted with prior to any project work.

No Action Alternative: Do not construct and/or maintain any soil erosion control projects described in Appendix 1.

Air quality: Under the Clean Air Act (1977, as amended), public lands within the Safford District were given a Class II air quality classification. Under this alternative, no actions requiring NEPA compliance would be taken, therefore, no dust production that would result in BLM needing a permit and no actions would result in a need to change the classification.

Cultural Resource and Native American Religious Concerns: Under this alternative, there are no direct impacts to cultural resources since the threat of disturbance is removed. However, as soils erode under climatic conditions cultural resources are exposed. With exposure the potential is there for vandalism, taking; trampling by vehicles, livestock, and wildlife; and eventually being transported with the movement of soil and water.

Environmental Justice and Socio-economics: There are low-income and minority populations within Graham, Greenlee, and Cochise counties. Communities with low income populations include Town of Thatcher, City of Safford, Pima, Solomon, Sanchez, Bowie, San Simon, AZ and the San Carlos Indian Nation. However, impacts to these low-income and minority populations are no different than those that may result in the the higher income populations within those same communities. No specific data will be provided since there are no disproportionate impacts. The salts and sediments entering the Gila River from the San Simon Valley would increase over time. As a result, water quality would be reduced. The economic and social impacts regarding the proposed action are indirect and tied to water quantity and quality, which would be reduced.

Under the Gila River water settlement, the San Carlos Nation and Gila River Indian communities are entitled to not only to the amount of water from the Gila River, but the quality. Not taking efforts to reduce the salts and sediments entering the river reduces the quality of water for these two communities.

Floodplains: Floodplains would continue to erode under this alternative since structures would not be maintained. Many farm lands are within the floodplains and there is the potential for loss of farmlands within the floodplains.

Invasive/noxious plants: Invasive species located within the project area include, but are not limited to salt cedar, Russian thistle, and sahara mustard. The chance for spreading invasive species under this alternative is unlikely since construction activities within infested areas would not occur.

Prime/Unique Farmlands: There are no known prime/unique farmlands within the San Simon Valley, therefore there are no impacts. However, the farming industry in the San Simon Valley and the Gila Watershed produces cotton, alfalfa, pecans, pistachios, peppers, and other various crops. Water sustains these farming communities. The

reductions of salts and sediments moving through the watershed impacts water quality, which then impacts how crops respond to both water quality and quantity.

Reclamation: There are no planned actions for reclamation under this alternative, therefore any impacts.

Special Management Areas (Wilderness Areas (WA) and Areas of Critical Environmental Concern (ACEC) – The Bear Springs Badlands ACEC is located near the Gila River. Under this alternative, there is no additional risk to the values of this ACEC as a result of not maintaining the Oso Largo detention dam.

Wildlife: Seventy years of sediment accumulations behind each erosion control structure along with increased soil moisture, has allowed vegetation to become established and thrive. Vegetation has also become established in long wide stringers below the structures due to increased soil moisture from the slow release of water. This vegetation and associated wildlife habitat is totally dependent on the continued functionality of the erosion control structures. Without maintenance, under the no action alternative, these structures will fail and over time the vegetation will revert to the more xeric creosote/salt bush habitat type, most common in the San Simon Valley. Vegetation structure and diversity would diminish in the San Simon Valley and likewise wildlife diversity will diminish. Surface disturbance would not occur from maintenance activities behind the structures. However, as the structures fail extensive head cutting and erosion would be expected, disturbing the soil surface and associated wildlife to a much greater extent than in the proposed action.

Visual Resource Management: The Dos Cabezas Peaks ACEC is designated a VRM Class II. The Dos Cabezas Wilderness Area and the Bowie Mountain Scenic ACEC are designated a VRM Class I. East of Bowie Mountain around the marble quarry is designated a Class III. The remainder of BLM within the project areas are designated a VRM Class IV. Under this alternative no change in these designations would result.

Water Quality: Water quality and quantity have been a long-standing issue on the Upper Gila Watershed, with on-going litigation over both subjects. The Clean Water Act placed the responsibility upon the states to implement many portions of the Act including reduction in non-point source pollution. The Clean Water Action Plan has directed agencies to take a holistic management approach to improving the water resources. Under this alternative, sediment and salts leaving the watershed contribute to non-point pollutions entering the Gila River.

Wetland/Riparian: The San Simon channel within the watershed is an ephemeral system, but historical records indicate it was once capable of perennial flow. A series of events from the late 1800's to 1940 lead to severe erosion, to the point that the water table has dropped and the system is not capable of supporting wetland/riparian system. Under this alternative, soils would continue to erode, therefore making it difficult and unlikely that perennial vegetation could sustain itself even in pseudo-riparian status.

Soil: Without proper maintenance these erosion structure deteriorate over time to the point of being non-function and/or washing away during flooding. This contributes to soil erosion and deterioration of water quality in the Gila River.

Vegetation: Under this alternative no vegetation would be disturbed from project construction or maintenance. However, as the erosion control structures fail to function and soil leaves the valley, it becomes harder for perennial vegetation to reproduce and establish new populations.

Roads: No roads would be constructed or maintained under this alternative. Roads and access routes to structures would become less noticeable since they would not be used.

Grazing: There would be no changes in permitted use under this alternative. Projects that are under Cooperative Agreements would be the responsibility of the permittees to secure funding for materials and labor to complete any required maintenance.

Cumulative Impacts

Proposed Action: The Safford Field Office re-constructs and maintains soil erosion projects as funding and labor is available on an annual basis. There are no other planned projects for the foreseeable future that are not included on the list in Appendix 1. As salts and sediment loads entering the Gila are reduced the following cumulative impacts are anticipated under this alternative:

No Action Alternative: Do not construct and/or maintain any soil erosion control projects described in Appendix 1.

Air quality: Under the Clean Air Act (1977, as amended), public lands within the Safford District were given a Class II air quality classification. Under this alternative, no actions requiring NEPA compliance would be taken, therefore, no dust production that would result in BLM needing a permit and no actions would result in a need to change the classification.

Cultural Resource and Native American Religious Concerns: Under this alternative, there are no direct impacts to cultural resources since the threat of disturbance is removed. However, as soils erode under climatic conditions cultural resources are exposed. With exposure the potential is there for vandalism, taking; trampling by vehicles, livestock, and wildlife; and eventually being transported with the movement of soil and water.

Environmental Justice and Socio-economics: There are low-income and minority populations within Graham, Greenlee, and Cochise counties. Communities with low income populations include Town of Thatcher, City of Safford, Pima, Solomon, Sanchez, Bowie, San Simon, AZ and the San Carlos Indian Nation. However, impacts to these low-income and minority populations are no different than those that may result in the

the higher income populations within those same communities. No specific data will be provided since there are no disproportionate impacts. The salts and sediments entering the Gila River from the San Simon Valley would increase over time. As a result, water quality would be reduced. The economic and social impacts regarding the proposed action are indirect and tied to water quantity and quality, which would be reduced. Under the Gila River water settlement, the San Carlos Nation and Gila River Indian communities are entitled to not only to the amount of water from the Gila River, but the quality. Not taking efforts to reduce the salts and sediments entering the river reduces the quality of water for these two communities.

Floodplains: Floodplains would continue to erode under this alternative since structures would not be maintained. Many farm lands are within the floodplains and there is the potential for loss of farmlands within the floodplains.

Invasive/noxious plants: Invasive species located within the project area include, but are not limited to salt cedar, Russian thistle, and sahara mustard. The chance for spreading invasive species under this alternative is unlikely since construction activities within infested areas would not occur.

Prime/Unique Farmlands: There are no known prime/unique farmlands within the San Simon Valley, therefore there are no impacts. However, the farming industry in the San Simon Valley and the Gila Watershed produces cotton, alfalfa, pecans, pistachios, peppers, and other various crops. Water sustains these farming communities. The reductions of salts and sediments moving through the watershed impacts water quality, which then impacts how crops respond to both water quality and quantity.

Reclamation: there are no planned actions for reclamation under this alternative, therefore any impacts.

Special Management Areas (Wilderness Areas (WA) and Areas of Critical Environmental Concern (ACEC) – The Bear Springs Badlands ACEC is located near the Gila River. Under this alternative, there is no additional risk to the values of this ACEC as a result of not maintaining the Oso Largo detention dam.

Wildlife: Seventy years of sediment accumulations behind each erosion control structure along with increased soil moisture, has allowed vegetation to become established and thrive. Vegetation has also become established in long wide stringers below the structures due to increased soil moisture from the slow release of water. This vegetation and associated wildlife habitat is totally dependent on the continued functionality of the erosion control structures. Without maintenance, under the no action alternative, these structures will fail and over time the vegetation will revert to the more xeric creosote/salt bush habitat type, most common in the San Simon Valley. Vegetation structure and diversity would diminish in the San Simon Valley and likewise wildlife diversity will diminish. Surface disturbance would not occur from maintenance activities behind the structures. However, as the structures fail extensive head cutting and erosion would be

expected, disturbing the soil surface and associated wildlife to a much greater extent than in the proposed action.

Visual Resource Management: The Dos Cabezas Peaks ACEC is designated a VRM Class II. The Dos Cabezas Wilderness Area and the Bowie Mountain Scenic ACEC are designated a VRM Class I. East of Bowie Mountain around the marble quarry is designated a Class III. The remainder of BLM within the project areas are designated a VRM Class IV. Under this alternative no change in these designations would result.

Water Quality: Water quality and quantity have been a long-standing issue on the Upper Gila Watershed, with on-going litigation over both subjects. The Clean Water Act placed the responsibility upon the states to implement many portions of the Act including reduction in non-point source pollution. The Clean Water Action Plan has directed agencies to take a holistic management approach to improving the water resources. Under this alternative, sediment and salts leaving the watershed contribute to non-point pollutions entering the Gila River.

Wetland/Riparian: The San Simon channel within the watershed is an ephemeral system, but historical records indicate it was once capable of perennial flow. A series of events from the late 1800's to 1940 lead to severe erosion, to the point that the water table has dropped and the system is not capable of supporting wetland/riparian system. Under this alternative, soils would continue to erode, therefore making it difficult and unlikely that perennial vegetation could sustain itself even in pseudo-riparian status.

Soil: Without proper maintenance these erosion structure deteriorate over time to the point of being non-function and/or washing away during flooding. This contributes to soil erosion and deterioration of water quality in the Gila River.

Vegetation: Under this alternative no vegetation would be disturbed from project construction or maintenance. However, as the erosion control structures fail to function and soil leaves the valley, it becomes harder for perennial vegetation to reproduce and establish new populations.

Roads: No roads would be constructed or maintained under this alternative. Roads and access routes to structures would become less noticeable since they would not be used.

Grazing: There would be no changes in permitted use under this alternative. Projects that are under Cooperative Agreements would be the responsibility of the permittees to secure funding for materials and labor to complete any required maintenance.

Mitigating Measures and Stipulations

Standard Noxious Plant Stipulations:

1. All equipment and vehicles would be power washed before going to the site to lessen the chance of introducing noxious weeds.

2. All work must be performed with the intention to incur only the minimum amount of disturbance necessary to achieve the objectives in order to decrease the establishment of noxious weeds.
3. Rehabilitation work including seeding, mulching and vertical mulching, matting, water control devices, and other measures would have biologist input to reduce introduction of non-native species.
4. Hay brought to the project site must be certified weed-free.

VRM: Use colored concrete mixes where feasible to blend with the natural surrounding and paint metals a color to blend with the natural surroundings.

WILDLIFE: During maintenance activities, patches of thick/tall vegetation will be avoided when possible.

The following stipulations are set for protection of cultural resources:

Cultural surveys would be conducted prior to any project work. The results of the surveys would determine whether the project is to be carried out, modified, mitigated, and/or cancelled.

Any archaeological or historical artifacts or remains, or vertebrate fossils discovered during construction, maintenance and use shall be left intact and undisturbed; all work in the area shall stop immediately and the Program Manager for Planning and Monitoring shall be notified immediately. Commencement of operations shall be allowed upon clearance by Program Manager.

An additional cultural and paleontological resource survey may be required in the event that the project location is changed or additional surface disturbing operations are added to the project after the initial survey. Any such survey would have to be completed prior to commencement of operations.

Any new roads constructed for projects would be reclaimed if there are not needed after the project is completed. Reclamation may include pushing dirt, debris, and vegetation back over the disturbed area and/or reseeding with an Arizona native plant mix.

Persons/Agencies Consulted: All the projects are located on public lands. Livestock permittees having Section 4 Permits or Cooperative Agreements for any projects in Appendix 1 were notified.

References:

Moliter, Delbert ., Suspended Sediment Monitoring Project – San Simon Watershed Southeast Arizona – 1983 to 1995, Safford Field Office, Bureau of Land Management. 1997.

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Date: May 12, 2005.

APPENDIX 1
PROJECT LIST AND PROPOSED ACTIONS

Name	Action	Location & Remarks
Goat Well Drop Structure	Stabilize the foundation and remove sediment.	SE4sec.23 & E2sec.26,T.8S.,R.27E.
Oso Largo Dam	Repair and straighten access road; install a new gate on fence at materials pit; install temporary low water crossings at major washes (#?); minor repairs to west spillway; remove about 50,000 (min) CY of accumulated sediment and then place on east spillway and north (downstream) side of dike.	
West Rockhouse # 6	Install a new concrete drop structure	NW4SW4sec.33,T.8S.,R.27E
Powerline CCC	Install a new concrete drop structure	S2sec.10,T.9S.,R.26E.
Powerline CCC Concrete Drop structure	Install new concrete spillway	S2S2sec.10,T.9S.,R.26E
Bonita Creek LWCs	New concrete crossings	FY'06 construction
Haekel Road LWCs	New concrete crossings	FY'06 construction
South Well	Repair Outlet and minor concrete; maintain rock gabion.	NW1/4 sec. 27, T.9S., R.27E.,
HX Detention	Repair Outlet/replace drawdown. May need to add concrete amount the concrete box and tie it into the existing rocks to eliminate head cutting problem. Maintain enclosure fence surrounding the area behind the HX dam.	S1/2 sec. 29, T.11S., R.28E.,
CCC#4	Concrete Spillway maintenance	SW4SE4sec.22,T.10S.,R.26E.
CCC#5	Concrete Spillway maintenance	NE4NW4sec.35,T.10S.,R.26E
West Rockhouse CCC #10	Concrete Spillway maintenance and add concrete where top apron needs deteriorated concrete removed.	SW4Sec.17, T.9S.,R.27E
East Rock House CCC#2	Breach Repair, new draw down pipe, sediment removal	NE4sec.10,T.9S.,R.27E.
West Rock House #8	Raise dike, breach repair, sediment removal	N2sec.33,T.8S.,R.27E
Olsen CCC #5	Raise dike, breach repair, sediment removal	NE4NE4sec.31,T.8S.,R.27E.

Olsen CCC #6	Raise dike, breach repair, sediment removal	NE4NE4sec.31,T.8S.,R.27E.
LL CCC #12	Raise dike, breach repair, possible sediment removal with minimal impact to new wildlife habitat, unplug drawdown pipe #3 at inlet; possibly extend dike to the north.	NW4SW4sec.32,T.29S.,R.28E.
Reservoir CCC	Raise dike, breach repair, sediment removal	NE4sec.29,T.8S.,R.27E.
West Rockhouse #9	Recommend using accumulated sediment to reconstruct dike. Possibly add new discharge pipe and concrete spillway (will cross existing roadway).	NW4SW4Sec.33,T.8S., R.27E.
LL # 13	Construct new dike by pushing up local material, diverting water away from Tanque Road.	This new structure would be located north of the severe washout on Tanque Road, just east of the San Simon concrete crossing
West Rockhouse #12	Remove sediment; repair outlet concrete structure	S2NE4sec.32,T.8S.,R.27E.
Upper Dike (@ Goat Well)	Remove approx. 20,000 CY sediment; place downstream of ex. dike, in previously cleared locations	NW4sec.36,T.8S.,R.27E.
CCC#1	Armor top of dike with gravel to allow use as access road; construct access road to bottom of headcut channel to allow hauling of material; fill headcut at downstream end of old spillway; block upstream entrance to old spillway.	NW4NW4sec.28,T.9S.,R.
East Rock House #7	Cleaning and clearing inlet pipe and normal maintenance.	File missing
West Rock House #1	Cleaning and clearing inlet pipe and normal maintenance.	N2SE4Sec. 9, T.9S., R.27E.
West Rock House #3	Cleaning and clearing inlet pipe Minimal clearing of brush and sediment at entrance (inlet) to discharge pipe. Outlet of discharge pipe is concrete and rock structure, which is cracking, and will be further damaged once pipe is functional; recommend minor repairs to this structure.	NE4NW4Sec. 9, T.9S., R.27E.
West Rock House #11	Cleaning and clearing inlet pipe and normal maintenance; spillway maintenance work including taking out deteriorated concrete and	NE4SE4Sec. 32, T.8S., R.27E.

	replacing it.	
Halfway Detention Dike #1	Cleaning and clearing inlet pipe and normal maintenance.	SE4SE4Sec. 11, NE4NE4Sec14, T.8S., R.27E.
Cove Detention Dam	Cleaning and clearing inlet pipe and normal maintenance.	SW1/4SW1/4Sec. 8, T.9S., R.28E.
111 Detention Dam	Cleaning and clearing inlet pipe and normal maintenance.	Sec. 22 & 27, T.8S., R.28E.
LL #5	Cleaning and clearing inlet pipe and normal maintenance.	NW4NE4Sec.32,T.9S.,R.28E
LL #8	Cleaning and clearing inlet pipe and normal maintenance.	E2SW4sec.33,T.9S.,R.28E.